JHARGRAM RAJ COLLEGE

DEPARTMENT OF MATHEMATICS

Programme Outcome:

- ❖ Progress of analytical and logical thinking abilities which are necessary for higher education.
- ❖ Students will learn advanced mathematical concepts that will help them in their future mathematical endeavours.
- ❖ Learn how to properly evaluate the given data using both quantitative and qualitative methods.
- ❖ Gain knowledge about how mathematics is used in various fields and acquire experience with mathematical modelling.
- ❖ The formulation, analysis and potential solutions to mathematical problems derived from real-world situation.
- ❖ Learn the math skills needed forsuccess in the Business, Banking, IT and Educational sectors etc.

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Course Outcome:

Programcode	ProgramName	Coursecode	CourseName	CourseOutcome	Yearof introduction
I.A. / I.Sc. / P.U.	*I.A. / I.Sc. / P.U.*	*?*	*I.A. / I.Sc. / P.U.*		*1949*
B.Sc.(General) Mathematics	B.Sc.(General) Mathematics	MTMG	B.Sc.(General) Mathematics		1957
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	MTMH	B.Sc.(Honours) Mathematics		1960
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C1T	Calculus, Geometry& Differential Equation	Familiarize students with practical application of calculus.Enablesstudents to handle geometrical entities like straight lines, planes, spheres. It helps students to solve differential equation.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C2T	Algebra	Learn to find roots of polynomial over real.Introductiontovector space and subspace. Give computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vectorspaces,eigenvalues and eigenvectors.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C3T	Real Analysis	Itgivesthebasicideaof realnumber,limitofa sequence and seris.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C4T	Differential Equations & VectorCalculus	Ithelpstostudenttosolve differnt types of differential equation.Familiarize students with practical application of vector calculus.	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C5T	TheoryofReal Functions & Introductionto Metric space	Knowledge about continuous function,uniform continuty,Roll'sTheorem, MVT Theorem,Taylor's Theorem and basic notionsofmetric space.	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C6T	GroupTheory- 1	It gives the basic idea of groups,subgroups,cyclic groups,normalsubgroups and group homomorphisim.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C7T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,Systemoflinear algebraic equations,Ordinary differentialequations.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C7P	Numerical MethodsLab	Problem solve on numericalanalysisby usingTurbo C software.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C8T	Riemann Integrationand Series of Functions	Itgivesthefundamental idea about Riemann Integration , Improper integrals,Fourier series,Powerseries.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C9T	Multivariate Calculus	Studentswould learn:-1. Limit and contunity of functions of several variables,2.Double integration and triple integration,3 Divergence, curl,andGreen’stheorem ,Stok'stheorem, and Divergencetheorem.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C10T	RingTheoryand LinearAlgebraI	Students would learn:-1.Ring, subrings,ideal, integral domains and field.2.Ring homomorphisms and IsomorphismtheoremsI, IIandIII.3.Vectorspaces and Linear transformations	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C11T	PartialDifferential Equations &Applications	Student will be able to solve first order partial differential equations, quasi linear equations, vibratingstringproblem and heat conduction problem and problems related to particle dynamics	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C12T	GroupTheory- II	Students would learn:- 1.Automorphism,2.Internal and External direct products of groups,3.Group actions,Sylow's theorems,Cauchy's theorem,andSimplicityof An for n ≥ 5, non-simplicitytests.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C13T	MetricSpacesand CpmplexAnalysis	Learningandapplication of : 1.topology of metric spaces, 2. concept of convergence of a sequence and completeness, compactness,3.Limitand continuty of complex function.4.Familiarize students with analytic function, derivatives and Contour integrals of complex function.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	C14T	RingTheoryand LinearAlgebraII	Introduction to rings and basic properties of rings andtheirhomomorphisms and ideals. To learn the diagonalizability of matrices and linear transformations,geometry of inner product spacesandtheproperties oflineartransformations on inner product spaces.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE1T	Linear Programming	Itprovidesbasicrulesto student to solve Linear Programming problem like transportation problem, assignment problem.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE1T	PointSet Topology	Students would learn aboutcountable,conncted and compact set in R	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE1T	Theroyof Equations	Mainly the course is designed so as to exemplifytheapplications oftheroyofequations.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE2T	Probabilityand Statistics	To give students an acquaintance with the axiomatic development theory of probability &Statisticsanddevelopa mathematicaltheorywith the help of induced probability space and distributionfunctions	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE2T	BooleanAlgebra andAutomata Theory	Itimpartstheknowledge aboutswitchingcircuits and its application.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE2T	Portfolio Optimization	It helps to take various financial decisions involvingriskfreeassets andutilisation offunds	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE3T	Mechanics	Itgivesanideaabout motion of artificial satellites and three dimentional forces.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE3T	NumberTheory	Studentswouldbeableto know arithmetic functions,primitive roots and quadratic reciprocity law	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE3T	Industrial Mathematics	This content is based on mathematicsofX-rayCT scan based on the knowledgeofcalculus.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE4T	Differential Geometry	Ithelpsstudenttoknow aboutthesurfacesand space curves.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE4T	Mathematical Modelling	Enhancing students' overall development and to equip them with mathematical modeling abilities,problemsolving skills.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	DSE4T	Bio Mathematics	It gives the idea about mathematicalbiologyand modelingprocess.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	SEC1T	Objective Oriented Programmingin C++	It provides basic rules regardingProgrammingin C++	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	SEC1T	LogicandSets	Formulate and develop mathematicalarguments inalogicalmanner.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	SEC2T	GraphTheory	Students would learn about different types of graph, Eulerian circuits,Hamiltoniancycles andsolvetravelling salesman's problem.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	SEC2T	Computer Graphics	Itgivesanidea about computer graphics.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	SEC2T	Operatingsystem: Linux	It provides basic rules regardingProgrammingin Operatingsystem:Linux	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE1T	Calculus, Geometry& Differential Equation	Familiarize students with practical application of calculus.Enablesstudents to handle geometrical entities like straight lines, planes, spheres. It helps students to solve differential equation.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE2T	Algebra	Learn to find roots of polynomial over real.Introductiontovector space and subspace. Use computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vectorspaces,eigenvalues and eigenvectors.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE3T	Differential Equations & VectorCalculus	Ithelpstostudenttosolve differnt types of differential equation.Familiarize students with practical application of vector calculus.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE3T	GroupTheoryI	It gives the basic idea of groups,subgroups,cyclic groups,normalsubgroups and group homomorphisim.	2017 - 2018

B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE3T	TheoryofReal Functions & Introductionto Metric space	Knowledge about continuous function,uniform continuty,Roll'sTheorem, MVT Theorem,Taylor's Theorem and metric space.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE4T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,Systemoflinear algebraic equations,Ordinary differentialequations.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE4P	Numerical MethodsLab	Problem solve on numericalanalysisby usingTurbo C software.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE4T	PartialDifferential Equations &Applications	Student will be able to solve first order partial differential equations, quasi linear equations, vibratingstringproblem and heat conduction problem.	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE4T	RingTheoryand LinearAlgebraI	Students would learn:- 1.Ring, subrings,ideal, integral domains and field.2.Ring homomorphisms and IsomorphismtheoremsI, IIandIII.3.Vectorspaces and Linear transformations	2017 - 2018
B.Sc.(Honours) Mathematics	B.Sc.(Honours) Mathematics	GE4T	Multivariate Calculus	Studentswould learn:-1. Limit and contunity of functions of several variables,2.Double integration and triple integration,3 Divergence, curl,andGreen’stheorem ,Stok'stheorem, and Divergencetheorem.	2017 - 2018

B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSC-1AT(CC-1)	Differential Calculus	Student will be to understand differentiation and fundamental theorem in differentiation and variousrules.Geometrical representation and problem solving on MVT and Rolls theorem. Findingextremevaluesof function.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSC1BT(CC 2)	Differential Equations	Ithelpsstudenttosolve differnt types of differentialequation.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSC1CT(CC 3)	Real Analysis	Itgivesthebasicideaof realnumber,limitofa sequence and seris.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSC1DT(CC-4)	Algebra	It gives the basic idea of groups,subgroups,cyclic groups,normalsubgroups and group homomorphisim,Ring & Field.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE1T	ComplexAnalysis	Learningandapplication oflimitandcontinutyof complex function.Familiarize students with analytic function, derivatives and Contour integrals of complex function.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE1T	Matrices	This topics give computational techniques and algebraic skills essential for the study of systems of Linear equations, matrix algebra, vectorspaces,eigenvalues and eigenvectors.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE1T	LinearAlgebra	Give computational techniques and algebraic skills essential for the studyofsystemsofLinear equations, matrix algebra, vectorspaces,eigenvalues and eigenvectors.	2017 - 2018

B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE1T	VectorCalculus and Analytical Geometry	Familiarizestudentswith practical application of vector calculus. Enables students to handle geometrical entities like straight lines, planes, spheres,cone.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE2T	Mechanics	One dimensional motion isaimedtobestudiedfor simplest cases.Vectors algebra recapitulation is motivated so that the forces in 2D and 3D in Statics can be given a general treatment (Vectorial treatment is encouraged).	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE2T	Linear Programming	It providesrules to studenttosolveLinear Programmingproblem like transportation problem, assignment problem.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE2T	Numerical Methods	Student will be able to solve Transcendental and polynomial equations,Systemoflinear algebraic equations,Ordinary differentialequations.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	DSE2T	Integer Programmingand TheoryofGames	Itprovidesbasicrulesto student to solve integer Programming problem andgametheory	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC1T	Theoryof Equations	Mainly the course is designed so as to exemplifytheapplications oftheroyofequations.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC1T	LogicandSets	Formulateand develop mathematicalarguments in a logical manner.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC1T	BooleanAlgebra	Itimpartstheknowledge aboutswitchingcircuits and its application.	2017 - 2018

B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC2T	GraphTheory	Students would learn about different types of graph, Eulerian circuits,Hamiltoniancycles andsolvetravelling salesman's problem.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC2T	IntegralCalculus	It provides basic rules evaluationoflengthand area of a curve in the plane and volumes and surfacesofsolid.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC2T	Mathematical Finance	Understand, formulate and use quantitative modelsarisinginsocial science, Business and other contexts.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC3T	NumberTheory	Studentswouldbeableto know arithmetic functions.Learn about applicationofEuler'sphi-function	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC3T	Bio-Matheatics	It gives the idea about mathematicalbiologyand modelingprocess.	2017 - 2018
B.Sc.(General)in Mathematics	B.Sc.(General)in Mathematics	SEC3T	Mathematical Modelling	Enhancing students' overall development and to equip them with mathematical modeling abilities,problemsolving skills.	2017 - 2018